Garnet Range quartzite and argillite
Missoula Area, Montana
Garnet Range argillite
Libby Area, Montana
Garnet Range argillite
Libby Area, Montana
Cross-bedding in potential Pilcher Quartzite Libby Trough Area, Montana
Moyie fault
Windermere-age rocks in Canada

Selkirk Mountains, British Columbia
In the Selkirk Mts.:

- Tapering wedges of sediment
- Syntectonic deposition of Windermere and Hamill
- Note thickness changes from >300m to 0m
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Reverse Faults:
Reverse Faults:

Warren 1997
Syntectonic sedimentation

Warren 1997
North America and the Windermere Supergroup:
The Gunbarrel Magmatic Event: 780 Ma

Harlan 2003
The Gunbarrel Magmatic Event: 780 Ma

Harlan 2003
The Gunbarrel Magmatic Event: 780 Ma
Gunbarrel sill- Glacier National Park

Flickr user Jeff Krause
Gunbarrel sill- Glacier National Park

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The Gunbarrel Magmatic Event: 780 Ma
The Gunbarrel Magmatic Event: 780 Ma

Moyie fault

Gunbarrel sill, N Montana

Gunbarrel dikes, SW Montana
S. PIONEERS
FLINT CR. MTS.
GRANULATED MT
S. PIONEERS

MBMG, IGS
S. PIONEERS
FLINT CR. MTS.
LEMHI MTS
GRANULATED MT
S. PIONEERS
LEMHI MTS

Pearson 2016

MBMG, IGS
Conclusions

• Humboldt anticline represents inverted half-graben

• similar relationships in Proterozoic to Cambrian rocks observed throughout western Montana

• Windermere and Belt Basins cut by Gunbarrel event

• Possible graben geometry in W Montana resembles Windermere grabens in Canada
References


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Thank you!